

MEMORANDUM

To: Ms. Susan Rungren, General Manager – Ventura Water

From: Charles Diamond/Sudhir Pardiwala – Raftelis

Date: July 19, 2021

Re: City of San Buenaventura - Evaluation of a Water Resource Net Zero Fee Report: 2021 Update

Introduction

The City of San Buenaventura (City) implemented the Water Rights Dedication and Water Resource Net Zero Policy (Ordinance No. 2016-004 and Resolution No. 2016-027) in August 2016 to mitigate the water resource impacts of new or intensified development on the City's existing water supply. The Ordinance established a framework whereby new or intensified development dedicates water rights to the City, and if those water rights are insufficient to meet the projected additional water usage of the development, the applicant can implement extraordinary conservation measures and/or pay a Water Resources Net Zero Fee (Net Zero Fee). The Resolution established the Net Zero Fee, which is a one-time fee paid by new or intensified development. Current Net Zero Fees are based on a Net Zero Fee Study conducted in 2016 and documented in the *Evaluation of a Water Resource Net Zero Fee Report*. Since 2016, the City has annually increased the Net Zero Fee based on annual changes in the Engineering-News Record Construction Cost Index (ENR-CCI) for Los Angeles.

The City engaged Raftelis in 2020 to conduct a water and wastewater cost of service study to establish a proposed five-year schedule of water and wastewater rates through FY 2025-26. As part of this rate study, City staff directed Raftelis to update the City's Net Zero Fee charged per estimated annual acre-foot (AF) of water demand. Raftelis reviewed the 2016 Net Zero Fee calculations, developed recommended changes based on current information, and calculated an updated Net Zero Fee for FY 2021/22. This memorandum summarizes the key results and recommendations relating to Raftelis' proposed update to the City's Net Zero Fee.

Economic and Legal Framework for Development Fees

Water utilities in California typically charge new development a one-time fee to connect to the system. These fees are commonly referred to as connection fees or capacity fees, and are herein collectively referred to as development fees. There are two primary methods of determining development fees. The Equity Buy-in Method is based on the value of existing infrastructure already paid for by existing users. The Incremental Method is based on additional capital costs required to serve new development. The City's Net Zero Fees most closely represent a development fee based on the Incremental Method. One key caveat is that the City's Net Zero Fee is a capacity charge and is designed to recover incremental costs associated solely with supplemental water supply projects.

Economic Framework

The basic economic philosophy behind development fees is that the costs of providing water service should be paid for by those that receive utility from the services rendered. In order to effect fair distribution of the value of the system, the fee should reflect a reasonable estimate of the cost of providing capacity to new or intensified development, and not unduly burden existing users. Accordingly, many utilities adopt this philosophy as a guiding principle when developing a development fee structure. The philosophy that service should be paid for by those that receive utility from the service is often referred to

as “growth-should-pay-for-growth.” The principal is summarized in the American Water Works Association’s *Manual M1, Principles of Water Rates and Charges*.

Legal Framework

The City reserves broad authority over the pricing of water development fees. The most salient limitation on this authority is the requirement that recovery costs on new development bear a reasonable relationship to the needs and benefits brought about by the development. Courts have long used a standard of reasonableness to evaluate the legality of development fees. The basic statutory standards governing water and wastewater development fees are embodied by Government Code Sections 66013 and 66016. Government Code Section 66013, in particular, contains requirements specific to pricing capacity charges:

“Notwithstanding any other provision of law, when a local agency imposes fees for water connections or sewer connections, or imposes capacity charges, those fees or charges shall not exceed the estimated reasonable cost of providing the service for which the fee or charge is imposed, unless a question regarding the amount the fee or charge in excess of the estimated reasonable cost of providing the services or materials is submitted to, and approved by, a popular vote of two-thirds of those electors voting on the issue.”

Section 66013 also includes the following general requirements:

- » Local agencies must follow a process set forth in the law, making certain determinations regarding the purpose and use of the fee; they must establish a nexus or relationship between a development project and the public improvement being financed with the fee.
- » The development fee revenue must be segregated from the general fund in order to avoid commingling of development fees and the general fund.

2016 Net Zero Fee Calculation

The City’s current Net Zero Fee is based on the calculation shown in Table 1 below. The Net Zero Fee was designed to recover the costs associated with developing water supplies to serve new or intensified development. Therefore, the total estimated capital cost (including financing costs) associated with select supplemental supply projects was simply divided by the annual water supply yield to establish a Net Zero Fee per acre-foot per year (AFY). The supplemental supply projects used for the 2016 Net Zero Fee calculation included potable reuse, restoration of the Foster Park Wellfield, and desalination. At the time of the 2016 Net Zero Fee study, these projects were identified in the City proposed five-year Capital Improvement Plan for 2016-2022. These supplemental water supply projects were estimated to cost about \$169 million and generate about 9,400 AFY of new water supply. For further details on the 2016 Net Zero Fee calculation, please refer to Appendix A, which includes the *2016 Evaluation of a Water Resource Net Zero Fee Report* in its entirety.

Table 1: 2016 Net Zero Fee Calculation

Description	Value	Notes
Supplement Supply Capital Costs (2016-2022)	\$169,077,014	Potable Reuse, Foster Park Wellfield Restoration, & Desalination
Financing Cost	\$79,567,960	50% of capital costs debt financed @ 30 years/5% interest
Net Zero Cost Basis	\$248,644,974	
Yield	9,398 AFY	New water supply from Potable Reuse, Foster Park Wellfield Restoration, & Desalination
Net Zero Fee FY 2016/17	\$26,457/AFY	= Net Zero Cost Basis ÷ Yield
Net Zero Fee FY 2020/21	\$28,680/AFY	Escalated annually based on Los Angeles ENR-CCI

The current Net Zero Fee, shown in Table 1, was the cost per estimated acre-foot per year of demand. New or intensified development projects are charged a fee based on the following formula:

$$\text{Net Zero Customer Fee} = \text{Net Zero Fee (\$/AFY)} \times \text{Net Zero Demand Offset (AFY)}$$

The Net Zero Demand Offset is project-specific and represents the incremental increase in required water supply due to that project's impact to the City's water system. The Net Zero Demand Offset (in AFY) is calculated for each customer based on projected new demand (based on the City's adopted water demand factors) after subtracting out historical water use at the property and any demand offsets (from the dedication of water rights or offsets from extraordinary conservation efforts). Figure 1 shows the City's current method of calculating the Net Zero Demand Offset for each new connection. No changes to the City's existing system of calculating customer-specific Net Zero Demand Offsets are proposed as part of this update.

Figure 1: Net Zero Demand Offset Formula

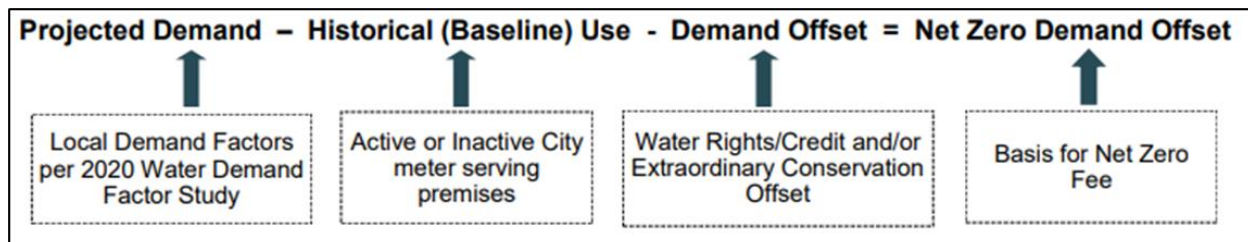


Table 2 shows current FY 2020/21 Net Zero per unit fees for various customer categories before accounting for historical use or demand offsets. The Net Zero per unit fee is calculated simply by multiplying the Net Zero Fee (in \$/AFY) by the water demand factor (in AFY/unit). All water demand factors shown are from the City's 2020 Water Demand Factor Study. Actual Net Zero Fees paid by customers may be less than what is shown in Table 2 if adjustments for historical use or demand offsets are applicable.

Table 2: Current Net Zero Per Unit Fees (FY 2020/21)

Category	Water Demand Factor (gpd/unit)	Water Demand Factor (AFY/unit)	Net Zero Fee per Unit*	
Single-Family	294/du	0.33/du	\$9,464	per du
Multi-Family	209/du	0.23/du	\$6,596	per du
Accessory Dwelling Unit	154/ksf	0.17/ksf	\$4,876	per ksf
Office	38/ksf	0.04/ksf	\$1,147	per ksf
Medical/Dental Office	168/ksf	0.19/ksf	\$5,449	per ksf
Hotel (w/ restaurant)	172/room	0.19/room	\$5,449	per room
Hotel/motel (no restaurant)	134/room	0.15/room	\$4,302	per room
Public & Institutional	68/ksf	0.08/ksf	\$2,294	per ksf
School	20/student	0.02/student	\$574	per student
Restaurant (sit-down)	673/ksf	0.75/ksf	\$21,510	per ksf
Restaurant (fast-food)	870/ksf	0.97/ksf	\$27,820	per ksf
Brewery	435/ksf	0.49/ksf	\$14,053	per ksf
Bakery/Coffee Shop	149/ksf	0.17/ksf	\$4,876	per ksf
Grocery Store	156/ksf	0.17/ksf	\$4,876	per ksf
Multi-Tenant Commercial	155/ksf	0.17/ksf	\$4,876	per ksf
Single-Use Commercial	105/ksf	0.12/ksf	\$3,442	per ksf
Self-Storage	286/acre	0.32/acre	\$9,178	per acre
Church	92/ksf	0.10/ksf	\$2,868	per ksf
Gym (w/ pool)	213/ksf	0.24/ksf	\$6,883	per ksf
Car Wash	1,081/ksf	1.21/ksf	\$34,703	per ksf
Gas Station (w/ car wash)	2,342/ksf	2.62/ksf	\$75,142	per ksf
Gas Station	255/ksf	0.29/ksf	\$8,317	per ksf
Assisted Living	91/bed	0.10/bed	\$2,868	per bed
Park/Golf Course	1,720/acre	1.93/acre	\$55,352	per acre

*Note: "du" = dwelling unit; "ksf" = 1,000 square feet.

Based on the current FY 2020/21 Net Zero Fee of \$28,680/AFY

Recommended Changes to Net Zero Fee Calculation Methodology

Raftelis thoroughly reviewed the 2016 Net Zero Fee study and discussed potential changes in methodology with City staff. After careful consideration, Raftelis recommends that the general calculation methodology be maintained. However, the following minor refinements are recommended:

- » The 2016 Net Zero Fee calculation is based on cost and yield assumptions for supplemental supply projects from the City proposed five-year Capital Improvement Plan for 2016-2022.. Raftelis recommends that the updated Net Zero Fee calculation is based on costs and yield associated with the VenturaWaterPure program, which will generate new water supplies through indirect potable reuse. This change will ensure that the updated Net Zero Fees are based on the City's most current Capital Improvement Plan related to supplemental water supply development.
- » Raftelis recommends that financing costs be excluded from the updated Net Zero Fee calculation. This proposed change will simplify the methodology, and is based on the assumption

that VenturaWaterPure financing costs will be recovered by water and wastewater rates. In addition, since VenturaWaterPure debt financing details have not yet been finalized, Raftelis recommends that the most appropriate option is to exclude financing costs from the updated Net Zero Fee calculation.

- » Raftelis recommends that the updated Net Zero Fee calculation include discounting of future VenturaWaterPure capital costs in order to account for the time value of money. Because Net Zero fees are adjusted annually based on the ENR-CCI to account for inflation, it is necessary to discount future capital costs to ensure that inflation is accounted for appropriately.

Updated Net Zero Fee Calculation (FY 2021/22)

Table 3 shows the proposed FY 2021/22 Net Zero Fee calculation based on the recommended methodological changes outlined in the preceding section. The proposed fee per AFY is calculated by simply dividing the VenturaWaterPure cost basis by the VenturaWaterPure yield. The proposed fee results in a reduction of \$5,874 per AFY relative to the current fee. This represents about a 20 percent reduction. Raftelis recommends that the City continue to adjust the proposed Net Zero Fee annually based on changes in the ENR-CCI for Los Angeles.

The cost basis was determined based on VenturaWaterPure program capital cost assumptions outlined in Raftelis' *2021 Water and Wastewater Cost of Service and Rate Design Study Report*. Total VenturaWaterPure program capital costs are estimated at \$259,124,000. The City's Wastewater Enterprise was allocated approximately 41.9 percent of total VenturaWaterPure program capital costs, and the Water Enterprise was allocated the remaining 58.1 percent (\$150,625,800). Total grant funding assumed to be available to the Water Enterprise's share of VenturaWaterPure capital costs (\$11,625,770) was subtracted from the Water Enterprise's share of capital costs to determine an undiscounted Net Zero Fee cost basis of \$139,000,030. Raftelis then applied a discount rate of 2.8 percent¹ to the undiscounted cost basis to determine a final VenturaWaterPure cost basis for the Net Zero Fee calculation (\$123,150,938).

The VenturaWaterPure yield of 5,400 AFY in Table 3 equals the amount of new water production projected to be generated by the VenturaWaterPure program by 2050 under normal water supply conditions. By calculating the cost basis divided by yield, the recommended updated Net Zero Fee is \$22,806 per AFY of new water demand.

Table 3: Proposed FY 2021/22 Net Zero Fee Calculation

Description	Value
VenturaWaterPure Cost Basis	\$123,150,938
VenturaWaterPure Yield	5,400 AFY
Proposed Net Zero Fee (FY 2021/22)	\$22,806/AFY
Current Net Zero Fee (FY 2020/21)	\$28,680/AFY
<i>Difference (\$)</i>	<i>(\$5,874)</i>
<i>Difference (%)</i>	<i>-20.5%</i>

¹ The assumed 2.8 percent discount rate is equal to the weighted average interest rate applied to debt financed VenturaWaterPure capital costs in the *2021 Water and Wastewater Cost of Service and Rate Design Study Report*. Discounting was applied based on the following formula:

$$\text{Present Value of Costs in each Year} = \frac{R_t}{(1+i)^t}, \text{ where } R_t = \text{cost at time } t, i = \text{discount rate, and } t = \text{years.}$$

Table 4 shows a comparison of proposed FY 2021/22 and current FY 2020/21 Net Zero Fees as calculated for a single family residential development. The fees were calculated by multiplying the fees per AFY in Table 3 by the single family residential water demand factor of 0.33 AFY per dwelling unit. Note that the fees shown do not include any adjustments for historical use or demand offsets.

Table 4: Single Family Residential Net Zero Fee Comparison

Description	Value
Proposed Customer Net Zero Fee (FY 2021/22)	\$7,526/du
Current Customer Net Zero Fee (FY 2020/21)	\$9,464/du
<i>Difference (\$)</i>	<i>(\$1,938)</i>
<i>Difference (%)</i>	<i>-20.5%</i>

Appendix A: 2016 Net Zero Fee Study Report

Water Consultancy

3585 Maple Street, Suite 250
Ventura, California 93003
805-404-1467

**Evaluation of a
Water Resource Net Zero
Fee Report**

March 30, 2016

Revised May 11, 2016

Prepared for

City of San Buenaventura
501 Poli Street, Room 120
Ventura, CA 93002

WC-025

Exhibit A

45

Table of Contents

Section 1:	Introduction	1
1.1	Background and Objectives	1
1.2	Scope of Services	2
Section 2:	Summary of Current and Estimated Future Water Demands and Supplies.....	3
Section 3:	Potential Sources of Additional Water Supply Development	4
Section 4:	Economic Basis for Recommended Fees	6
4.1	Adjustments to Water Rights/Credits Based on Water Quality	7
Section 5:	Recommended Water Resource Net Zero Fee	8
Section 6:	Potential Implementation Issues.....	9

Section 1: Introduction

This evaluation summarizes the economic basis and development of a water resource net zero fee. This recommended fee would apply to new or intensified development that requires an increase in water service but does not transfer sufficient water rights to serve the proposed development.

1.1 Background and Objectives

The City of San Buenaventura (City) owns and operates a water system that serves approximately 32,000 service connections, within and outside the City boundaries. Water is supplied through 3 main sources: local groundwater from the Mound, Santa Paula, and Oxnard Plain basins, treated water purchased from Casitas Municipal Water District (Casitas) and water diverted from the Ventura River. Water service is provided to residential, commercial, industrial and irrigation customers, including fire protection users. Recycled water from the Ventura Water Reclamation Facility is also delivered to recycled water customers located along the existing distribution system alignment.

The City water system is a complex system of 16 pressure zones, 11 wells, 21 booster stations, approximately 380 miles of pipelines ranging from 4-inches to 36-inches in diameter, and a total storage capacity of approximately 52 million gallons (mg) in 32 tanks and reservoirs. The system delivers water from sea level to a maximum elevation of over 1,000 feet. The City operates three treatment facilities, including one membrane filtration treatment plant for surface water sources on the west side of the City, and two iron/manganese removal treatment plants for groundwater sources on the east side¹. The City also maintains and operates the Ventura Water Reclamation Facility.

The City has previously prepared various water planning documents that address water demands and supplies. These documents include the 2005 General Plan documents, Amended 2010 Urban Water Management Plan, and 2011 Water Master Plan. Because these documents were prepared for specific and different purposes, the water demand and supply projections differ. The City prepared a Final 2013 Comprehensive Water Resources Report (CWRR) to compare the water demand and supply projections in the previous reports and compare the City's water demand projections with its available supplies. The City Council approved the Final Report on June 10, 2013 and directed staff to provide an annual update on the City's water supplies and demands. Relevant conclusions of the 2013 CWRR as well as the subsequent annual reports are summarized and form the basis for this evaluation.

To assure that new development does not adversely affect the water supply or water supply reliability of the City's existing customers, Ventura Water desires to implement a water rights dedication and water resource net zero fee ordinance and resolution. The objective of these actions would be to assure that adequate water supplies are available for proposed new or intensified developments without adverse impacts to the City's existing customers or approved new developments. Developers could dedicate adequate water rights to support a proposed new or intensified development, implement extraordinary onsite or offsite conservation measures, and/or pay a net zero fee so that the City could develop the necessary water

¹ City of San Buenaventura Water Master Plan, 2011.

supplies. Accordingly, this study addresses the technical basis for the water resource net zero fee.

1.2 Scope of Services

To develop the technical basis for the net zero fee, the following scope of services was developed:

1. Meet with City staff to identify policy issues associated with a net zero fee.
2. Assist City staff with presentations to the City Water Commission.
3. Describe potential additional water supplies identified in the City's capital improvement program.
4. Identify the probable cost of developing each of the identified potential water supplies.
5. Recommend a water resource net zero fee.
6. Summarize the evaluation in draft and final reports.
7. Work with City staff and legal counsel to develop a water dedication and net zero policy and fee ordinance.
8. Attend community workshops on an as-requested basis.

The assumptions, approach, and methodology are intended to be consistent with the policy guidance provided by the City's Water Commission.

Section 2: Summary of Current and Estimated Future Water Demands and Supplies

The City's water supply is currently being used at nearly full capacity. Based on a review of the previous water demand projections and a detailed evaluation of historical water demands, the Final 2013 Comprehensive Water Resources Report (CWRR) indicates that the calendar year (CY) 2012 water demand including a 6.5 percent water loss factor was 18,004 acre-feet per year (AFY). The recommended baseline water demand for existing conditions (utilizing the most recent 5-year average, CY 2008-2012) was set at 17,601 AFY. Based on the estimated water demands of approved and yet unbuilt new developments as of December 31, 2012, the Final 2013 Comprehensive Water Resources Report projected the near-term water demand to grow to 18,643 AFY by 2019.

The Final 2013 CWRR summarizes the City's current available water supplies as 5,000 AFY from Casitas, 4,200 AFY from the Ventura River (Foster Park), 4,000 AFY from the Mound Groundwater Basin, 4,100 AFY from the Oxnard Plain Groundwater Basin, 1,600 AFY from the Santa Paula Groundwater Basin, and 700 AFY of recycled water. Accordingly, the City's current water supply portfolio totals 19,600 AFY during a normal hydrologic year.

The 2015 CWRR is the latest CWRR and indicates that the CY 2015 water demand including a 6.5 percent water loss factor was 16,995 acre-feet per year (AFY). The reduction in water demand compared to previous years can be attributed to increased water rates and the City's request to customers to voluntarily reduce their water usage by at least 10% in response to the prolonged drought. The recommended baseline water demand for existing conditions (utilizing the most recent 5-year average, CY 2010-2014) was set at 17,167 AFY. Based on the estimated water demands of approved and yet unbuilt new developments as of December 31, 2014, the 2015 Comprehensive Water Resources Report projected the near-term water demand to grow to 18,295 AFY by 2022. Accordingly, the City's current water supply of 19,600 AFY during a normal hydrologic year is only 7.1 percent higher than the projected demand. Since the City's targeted supply buffer is 20% above demand, additional supplies are required.

Section 3: Potential Sources of Additional Water Supply Development

The City's proposed 2016-2022 Capital Improvement Program (CIP) identifies several programs that could increase the City's water supplies. Each water supply program generally consists of several separate CIP projects. The City's CIP planning process occurs every two years and each of the projects are prioritized for implementation. The CIP includes the following potential water supply projects:

- Potable Reuse
- Foster Park Wellfield Restoration (Foster Park)
- Reuse of Ojai Valley Sanitary District Effluent (OVSD)
- Seawater Desalination

The City currently delivers approximately 700 AFY of recycled water from the VWRP for urban landscape irrigation. Based on the March 2013 Estuary Special Studies Phase 2: Facilities Planning Study for Expanding Recycled Water Delivery, the City has several recycled water options to reduce wastewater discharges and increase water supplies, including the Mound Basin Indirect Potable Reuse (IPR) or Direct Potable Reuse (DPR). The City's CIP currently includes a Potable Reuse program. The specific projects included in this program include:

- Project ID 74059 Wastewater Plant - Advanced Treatment Potable Reuse
- Project ID 97949 Waterline - Ventura/Oxnard Emergency Water Intertie
- Project ID 74084 Brine Line Ocean Outfall
- Project ID 74058 Recycled Waterline - Purewater Pipelines
- Project ID 74070 Treatment - Advanced Treatment Plant Land Acquisition

The total estimated capital cost of this program is \$127.8 million (2015) and would have an estimated annual delivery capacity of approximately 3898 AFY. The capital cost to be applied to determine the net zero fee is \$65,757,014 since an estimated \$62 million (2015) is being collected through the Estuary Protection Fund.

Production wells at Foster Park were destroyed in previous storm events and the Ventura River surface water diversion is not functional at this time. The CIP includes the Foster Park Wellfield Restoration Project. The increased capacity from the Foster Park/Ventura River facilities is estimated to be 2500 AFY. The estimated capital cost of these facilities is \$ 23,320,000 (2015 dollars).

The feasibility of reuse of the Ojai Valley Sanitary District effluent which discharges to the Ventura River was evaluated in 2007. The feasibility study identified several uncertainties

including the market for the recycled water and associated environmental issues in the Ventura River. The City's CIP includes the OVSD program. The anticipated delivery capacity is 1120 AFY. The estimated capital cost is \$ 2,440,000 (2015 dollars).

Although ocean desalination was preferred by the City's voters in November 1992 over State Water deliveries, this potential additional future water supply has not been fully developed and is not expected to be phased in until after 2025. An ocean desalination program is included in the City's CIP but will not be required until after 2030. The anticipated delivery capacity is 3000 AFY. The estimated allocated capital cost of the program is \$ 80,000,000 (2015 dollars).

To accommodate uncertainties and variabilities in water supply and demand estimates, a 20 percent supply buffer over projected demands was adopted by the City's Water Commission for water supply planning purposes. The potential net zero fees of these portfolios are evaluated in the following section. Of the potential sources identified for new development in the Final 2015 Comprehensive Water Resources Report, most of the other potential additional future water supplies have uncertainties or complexities that limit their utilization as the basis for development of a water resource in-lieu fee. Currently, State Water is limited by the ability to deliver the water to the City. Although State Water can be wheeled through the Metropolitan Water District of Southern California and Calleguas Municipal Water District, it would be costly and the necessary agreements have not been negotiated. The City continues to discuss potential intertie projects with other local agencies and a Water Intertie Project is included in City's current Capital Improvement Program. In the interim, in June 2013, Council authorized the City's 10,000 acre-foot of State Water Project allocation to be sold in the State's Multi-Year Water Pool Demonstration Program (Program). The Program provides flexibility in pricing and greater return on the City's investment than the traditional pool. Concerns regarding the Saticoy County Yard Well have been raised by the Fox Canyon Groundwater Management Agency and United Water Conservation District. A Limitation and Tolling Agreement was put into effect. It was determined that the 2004 County of Ventura Saticoy Operations Yard EIR was not sufficient for the anticipated operations of the Saticoy County Yard Well and, therefore, additional environmental review is warranted for operation of the well.

Based on these considerations, 3 alternative water supply portfolios were developed for determination of the recommended net zero fee. Portfolio 1 would include all of the programs in the City's CIP that relate to new or restored supplies, Portfolio 2 would include Potable Reuse and Foster Park restoration only, and Portfolio 3 would include all of the new or restored supply projects except OVSD. Of the portfolios, Portfolio 2 would not address the recommended water supply buffer of 20 percent set by the Water Commission.

Section 4: Economic Basis for Recommended Fees

The amount of the recommended water resource net zero fee is based on the required capital cost and financing cost to develop the additional water supplies to serve new development. The anticipated capital cost and yield of the potential water supply programs are summarized in the previous section.

Capital costs are based on the estimated costs included in the City's CIP and escalated in subsequent years based on the ENR Index for Los Angeles. Financing costs are based on the financing policy recommended by the Citizen Rate Advisory Committee in 2014 and adopted by City Council. This policy recommends utilizing pay-as-you-go for 50 percent of capital costs and bond financing for the other 50 percent. This evaluation assumes that bond financing would occur at 5 percent over 30 years with semi-annual payments.

Based on these assumptions, the resulting net zero fee for the alternative portfolios is presented in the following table.

WATER CIP PROJECTS FOR 2016-2022

	Portfolio 1- All New Supply and Supply Restoration Projects		Portfolio 2-potable Reuse and Foster Park Wellfield Restoration Only***		Portfolio 3-Potable Reuse, Foster Park Wellfield Restoration and Desalination****	
Yield	10,518	AFY	6,398	AFY	9,398	AFY
CIP Cost**	\$171,517,014	2015 \$	\$89,077,014	2015 \$	\$169,077,014	2015 \$
Financing Cost (50%)*	\$80,716,229	2015 \$	\$41,919,810	2015 \$	\$79,567,960	2015 \$
Net Zero Cost Basis	\$252,233,243	2015\$	\$130,996,824	2015 \$	\$248,664,974	2015 \$
Unit Cost	\$23,981	\$/AFY	\$20,475	\$/AFY	\$26,457	\$/AFY

* Based on 50% of capital costs at 5.0% for 30 years with semi-annual payments.

** The CIP cost for the Potable Reuse program was reduced by \$62 million which is being collected through the Estuary Protection Fund.

*** Portfolio 2 only provides an adequate water supply through 2025.

**** Portfolio 3 provides an adequate water supply to at least 2050.

The net zero fee would be applied to the amount of the projected annual demand of new or intensified development that is not mitigated by the dedication of water rights or the implementation of extraordinary onsite or offsite conservation measures.

4.1 Adjustments to Water Rights/Credits Based on Water Quality

The assessment of any water rights/credits provided to offset the net zero fee should consider the water quality of the water source that is transferred. For general minerals, it is recommended that the water rights/credits would be reduced by the volume of blend water necessary to achieve the City's water quality goal of 90 percent of the secondary MCL for total dissolved solids or any of the Division of Drinking Water's (DDW's) primary or secondary Maximum Contaminant Level (MCL) for general minerals, whichever is more stringent. For contaminants for which DDW may require treatment, it is recommended that the rights/credits would be reduced by the volume of blend water necessary to achieve 80 percent of the primary MCL for other contaminants. These recommendations are incorporated in the following formula:

$$\text{DWR Credit} = \text{DWR} - \frac{(\text{WQ(DWR)} \times \text{DWR}) - (\text{WQG} \times \text{DWR})}{\text{WQG} - \text{WQ(BW)}}$$

Where:

DWR Credit = the annual quantity of the DWR that would be applied the projected annual demand to mitigate the net zero fee.

DWR = annual quantity of water rights/credits to be transferred.

WQ(DWR) = the water quality of the City's water supply which is used to utilize the transferred water rights/credits (i.e. City-operated groundwater well in the same basin as the water rights/credits). The water quality of a private groundwater well will not be used unless the City agrees to use the well to supply water.

WQG = the water quality goal of the blended water which could be a goal established by the City, 90 percent of the primary or secondary MCL for general minerals or 80 percent of a primary MCL for contaminants for which DDW requires treatment at 80 percent of the primary MCL.

WQ(BW) = the water quality of the blend water source.

Section 5: Recommended Water Resource Net Zero Fee

Based on the analysis presented in the preceding section, Portfolio 3- Selected Projects, which addresses projected demands and a 20% buffer, is recommended as the basis for the net zero fee. In this portfolio, Potable Reuse and Foster Park would be implemented prior to 2025 and seawater desalination would be implemented after 2025 but before 2050. Portfolio 3 is recommended because it would provide the water supply buffer consistent with the City's Water Commission policy recommendations. It should be noted that the timelines are estimates only and the City will continue to investigate and pursue other alternative supply projects and opportunities. With the recommended implementation approach, the City would maintain a 20 percent buffer until at least 2050 based on current demand projections. Accordingly, the recommended net zero fee is \$26,457 per acre-foot of new demand.

The selected projects or "suite" of projects used to calculate the net zero fee does not tie or commit the City to actually building any particular project or suite of projects. As time goes on and new information and data are acquired or as regulations change, it may be decided at a later date to swap out one project for another (i.e. State Water for Desalination). Demand side management projects such as the expansion of the City's recycled water system could also be funded by the collected fees.

Section 6: Potential Implementation Issues

To implement the recommended fee, the City must have an accurate assessment of the potential water demands of proposed new development. Although the water demand factors of new development have been dropping due to the incorporation of water conservation measures, the City should be conservative in its application of water demand factors. Accordingly, it is recommended that the City utilize the City's current local water use demand factors approved by Council on June 10, 2013, as presented in the Final 2013 Comprehensive Water Resources Report, to the recommended water resource net zero fee for appropriateness and conservatism. It is anticipated that the City's water demand factors will be reevaluated in 2023 as indicated in the past CWRR's unless additional information requires an earlier reevaluation. However, the City may want to reevaluate the demand factors in 2020 to coincide with the 2020 Urban Water Management Plan. In addition, it is recommended that the City continuously monitor its available water supplies so that new supplies are developed in a timely manner to serve potential new development.